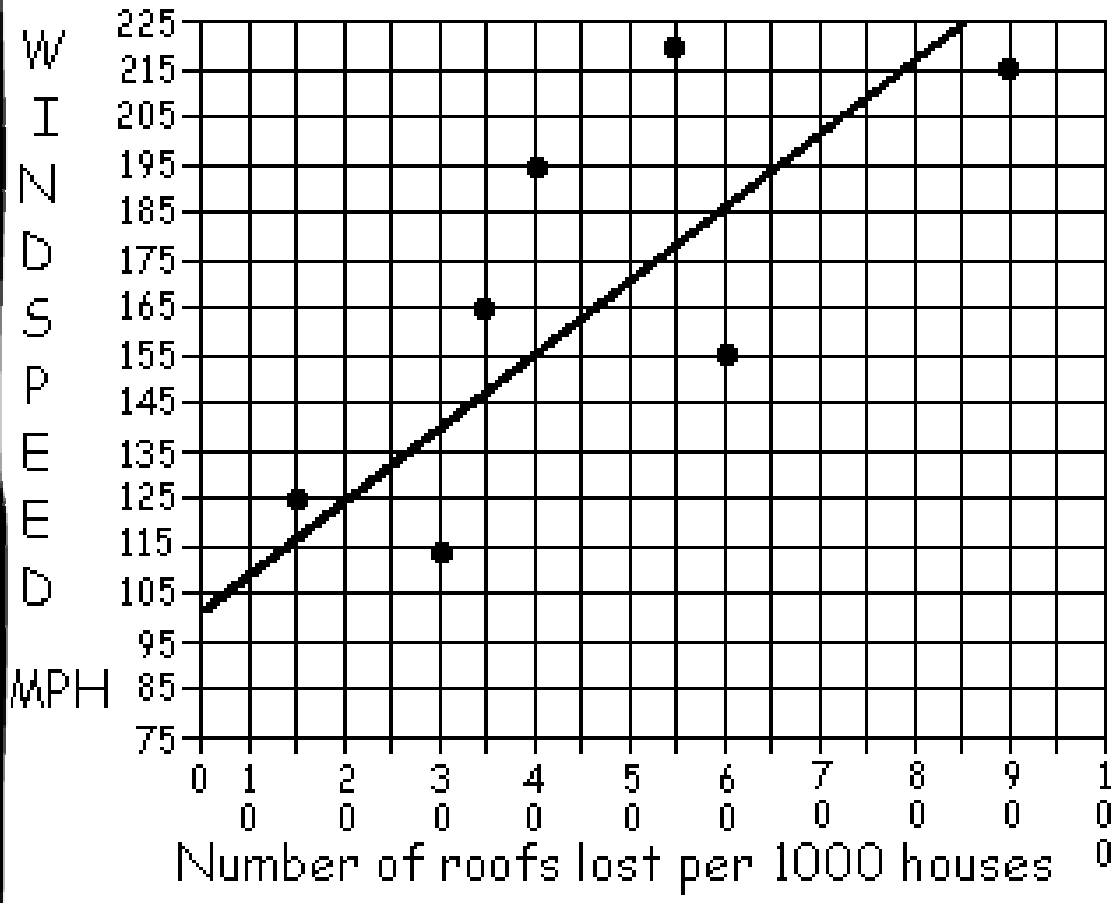
III. Gather Data

None of the sets of points that you will place on the graphs on the next few pages will form perfect lines. You will have to determine where the line should be to best fit the data points.

Example:

Below is a sample data set (a collection of information) to show you the best fit line idea. Notice on the graph below that there is a perfectly straight line that comes as close as possible to all the data points but doesn't actually touch any data points.

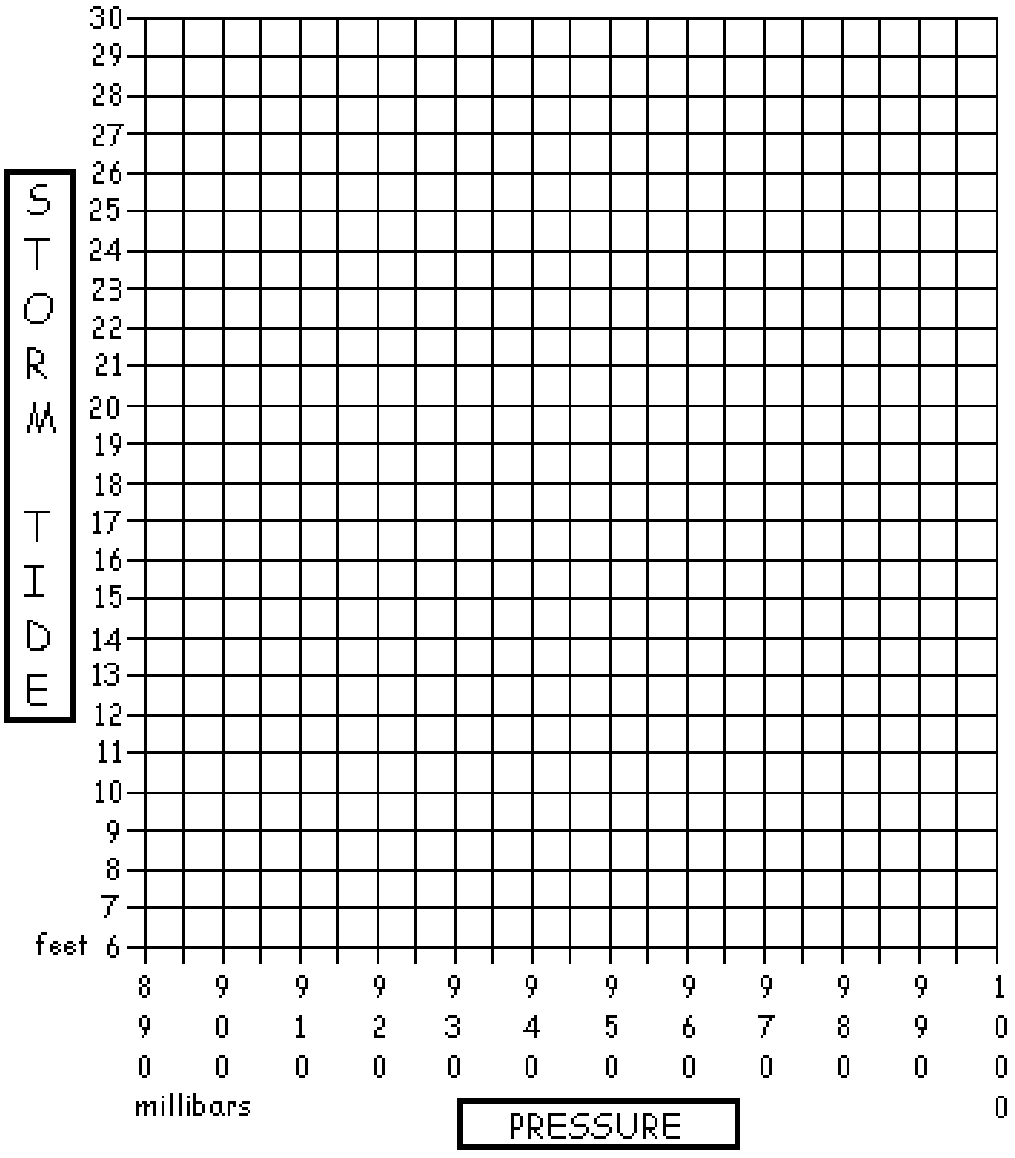


A. Graph Storm Tide Height vs. Pressure

- Click on the "Storm Tide Data" site.

- Read across the bottom of the graph until you get to the pressure line for Hurricane Eloise (955 millibars). Follow the line up to the storm tide height for hurricane Eloise (16.4 feet). Mark the spot where the two values intersect.

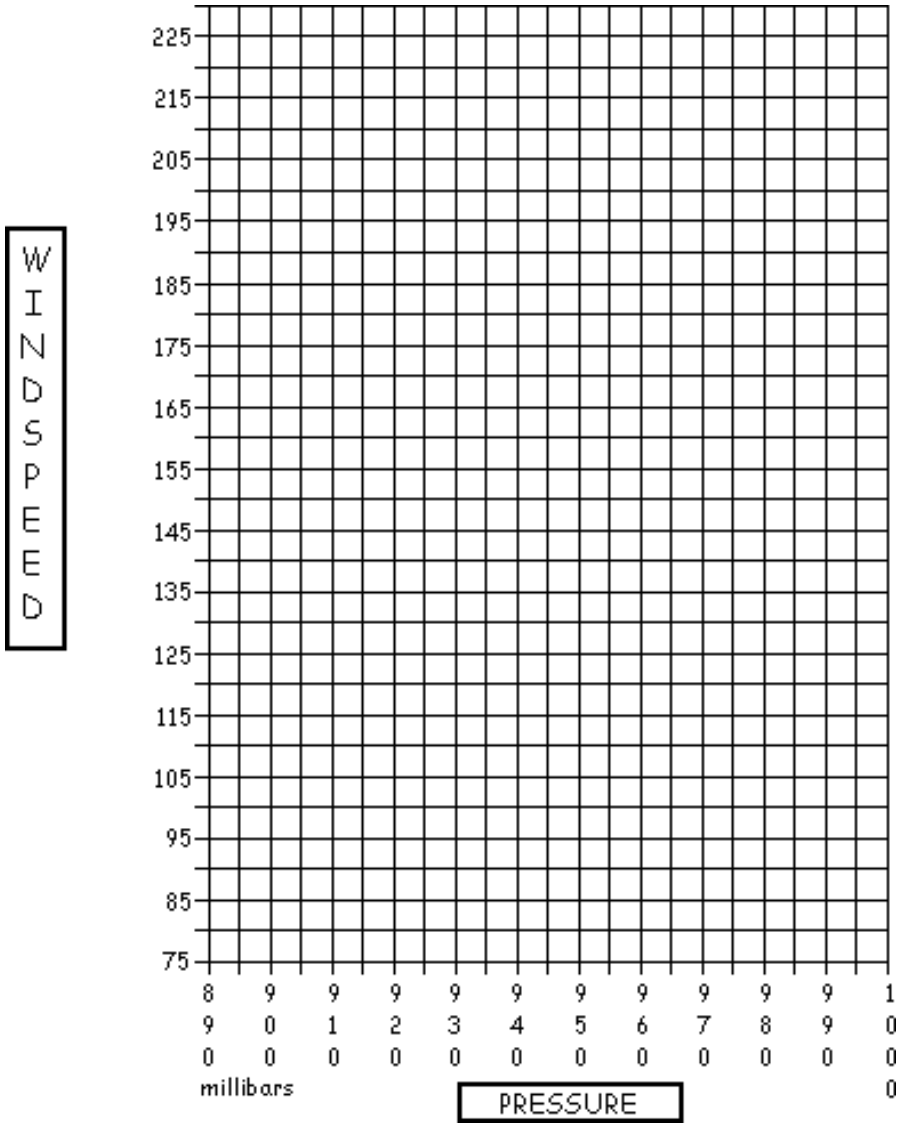
- Do the same for hurricanes Frederic, Alicia, Kate, Hugo, Bob, Andrew at South Florida, and Emily, then draw a best fit line.



B. Graph the Pressure vs. Wind Speed

- Read across the bottom of the graph until you get to the pressure line for Hurricane Eloise (955 mb). Follow the line up to the wind speed for hurricane Eloise (123 mph). Mark the spot where the two values intersect.

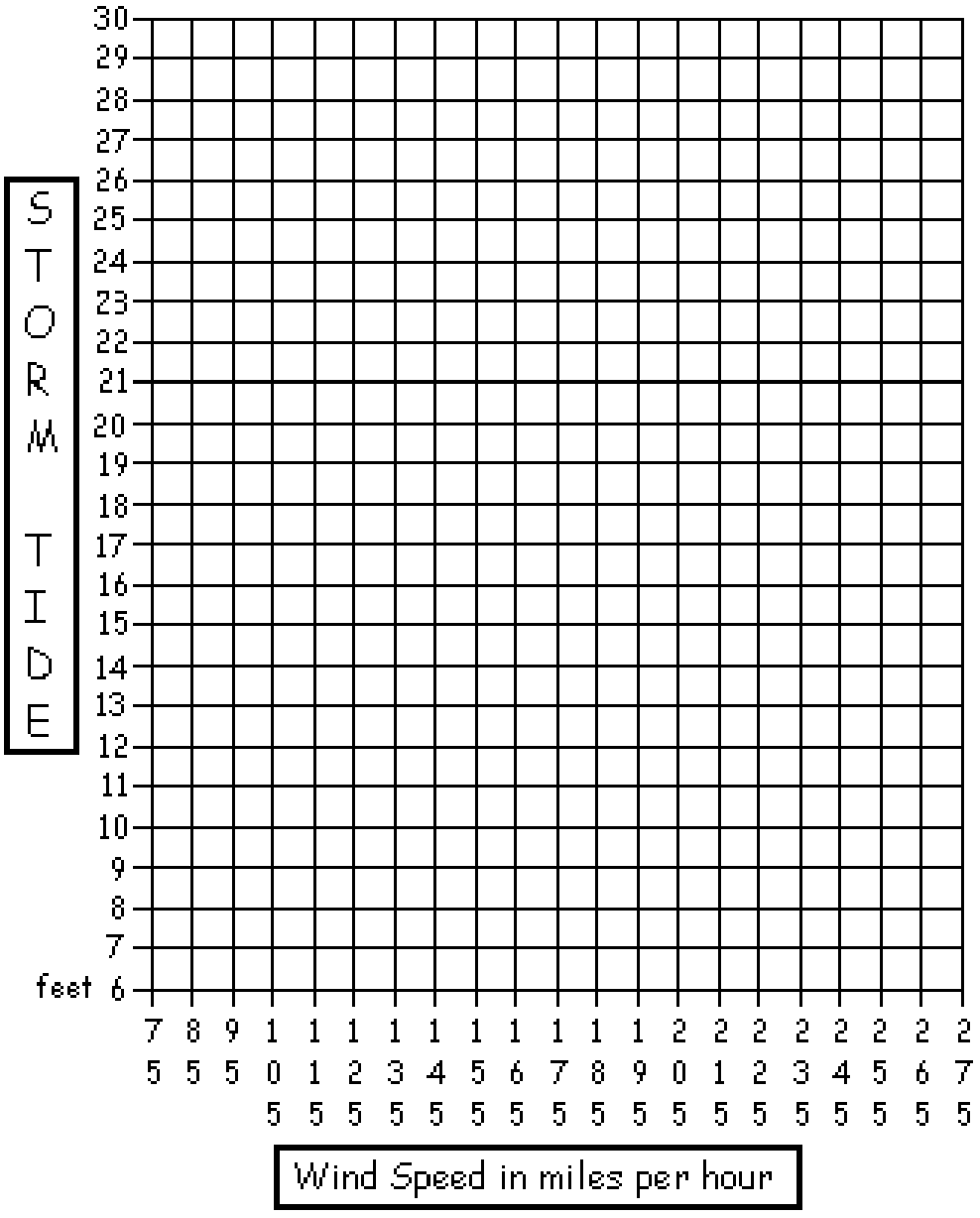
- Do the same for hurricanes Frederic, Alicia, Kate, Hugo, Andrew at South Florida, and Emily, then draw a best fit line.



C. Graph Tide Height vs. Wind Speed

- Read across the bottom of the graph until you get to the wind speed for hurricane Eloise (123 miles per hour). Follow the line up to the storm tide height line until you hit 16.4 feet. Mark the spot where the two values intersect.

- Do the same for hurricanes Frederic, Alicia, Gloria Long Island, Kate, and Andrew S. Florida, then draw a best fit line.



- Click "Back" until you get back to the OAR Hurricanes site.

D. Math Interpretations

- Click on the "Conversion Factors" site.

1. Convert 75 miles per hour to knots. There is 0.864 nautical mile per standard mile. One knot is one nautical mile per hour.

2. Convert 120 miles per hour to kilometers per hour.

3. Convert 920 millibars to inches of mercury.

4. Convert 950 millibars to hPa.

- Click "Back" until you get back to the OAR Hurricanes site.

E. Tracking Hurricanes

- Go to one of the following sites.

a. If you live nearest to the Atlantic Ocean, click on the "Atlantic Hurricane Tracking Data by Year" site.

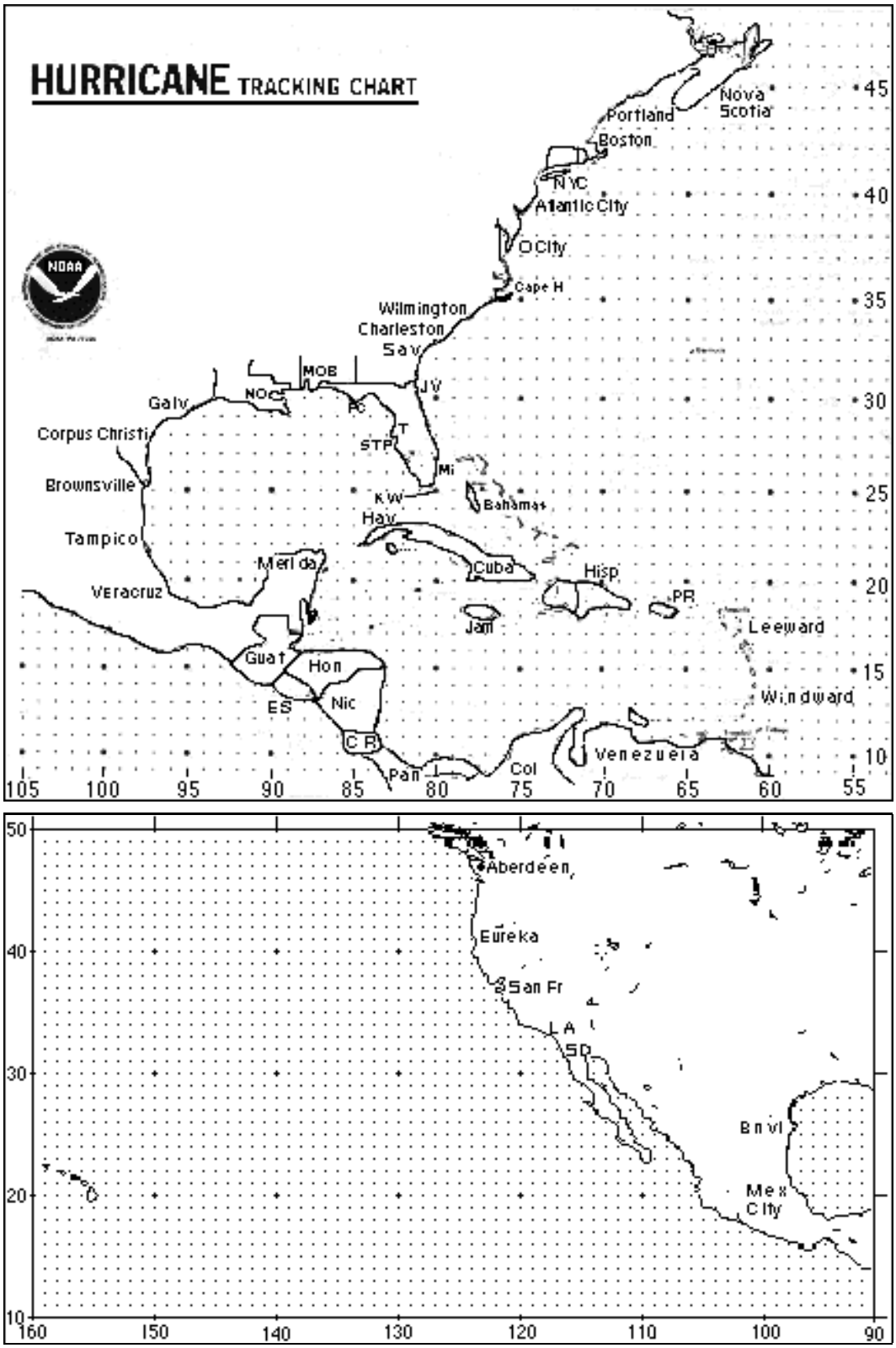
b. If you live nearest to the Pacific Ocean, click on the "Pacific Hurricane Tracking Data by Year" site.

- Click on the hot text number next to the icon for the year you were born.

- Scroll down the page and look for the worst hurricane that year and click "Details" for the hurricane.

1. Using latitude and longitude numbers, plot the path of the storm when it was classified as a hurricane on the hurricane tracking chart on the next page.

2. Connect the plotted points to show the path of the hurricane.



- Click Back until you get back to the OAR Hurricanes site.

3. Compare your graph with the one for your hurricane on the web page.

- Click "Back" until you get back to the OAR Hurricanes site.